Case Series Study: Effect of Silver-ion Solution on Chronic Ulcers

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Background: Silver has been a known topical antimicrobial. Silver-containing dressings may be more efficacious in reducing the wound size and eliminating biofilm if *ionic silver* was released into the wound over time. This case series evaluates SilverStream®, by EnzySurge Ltd., Israel. It is a clear, hypertonic solution that combines menthol and low concentration of silver ions and surfactants.

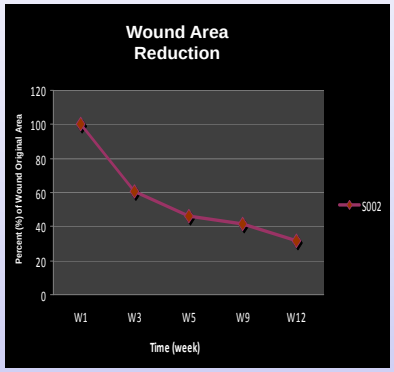
Purpose: To investigate the use of SilverStream solution in the treatment of chronic ulcers.

Methods: Four patients with multiple co-morbidities and either venous or diabetic foot ulcers of at least 5 years in duration were treated with SilverStream. Patients have been treated with multiple advanced wound care modalities. Patients were instructed to change dressing daily by first saturating sterile dry gauze with the silver-ion solution and apply the saturated gauze directly to the wound for 15 minutes prior to dressing change. The patient was followed every 10 days. Wound measurements, level of pain, wound characteristics, photographs, and biopsies were captured at each clinic visit for 10 weeks period.

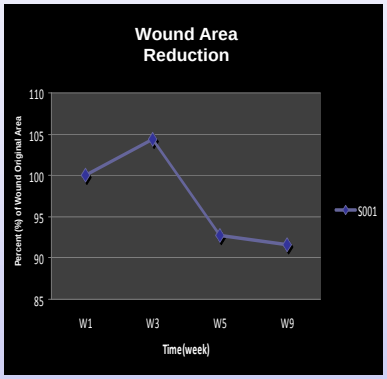
Result: All patients showed a decrease in area and fibrotic tissue, decrease of exudates, decrease of pain and an increase in granulation tissue. No serious adverse events were observed.

Case 1: 53 y/o Male With HTN With Digit Ulcers for 6 Years.

HISTORY
53 y/o male with highly exudative ulcer on right foot for 6 years. Previously treated with skin graft, skin substitute, silver alginate.
RESULT
68% reduction in wound area after 10 weeks of treatment and a decrease of drainage. Overall increase in granulated tissue.
Almost no pain reported by the end of 5th week. Pain scale 1/10.



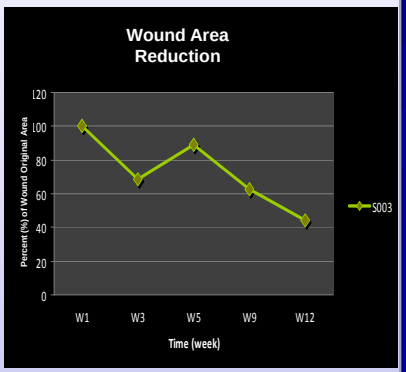
Case 2: 61 y/o Female With Chronic Ulcer for 10 Years.



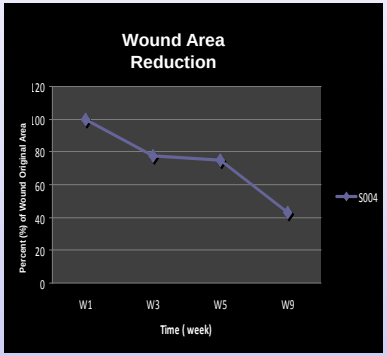
HISTORY
61 y/o female with right leg ulcer for 10 years. This began with an open fracture and then went on to a chronic wound and multiple failed skin grafts. History of Lupus and 20 year smoker.
RESULT
10% reduction in area noticed over 10 weeks of treatment time.
Pain down to tolerable level. Pain scale: 4/10
Culture: +4 MRSA to 3+ MRSA

Case 3: 45 y/o Male With Chronic Leg Ulcers for 5 Years.

HISTORY
45 y/o male with left traumatic leg ulcer of 5 years, with venous congestion. IV drug user and smoker
RESULT
60% reduction in area noticed over 10 weeks
Pain completely subsided by end of treatment: Pain scale: 0/10
Culture : +2 MRSA to no growth at the end of treatment.



Case 4: 86 y/o Male With Chronic Circumferential Leg Ulcer for 5 Years.



HISTORY
86 y/o male with right leg ulcer for 5 years. History of Afib, Aortic stenosis, HTN, prostate cancer with radiation.
RESULT
55% reduction in area at 10 weeks of treatment.
Pain down to tolerable level. Pain scale: 3/10
Culture: Reduce from +4 MRSA to +3 MRSA

Conclusion: Application of SilverStream was shown to decrease wound area, fibrotic tissue, dressing change frequency, and pain and can increase granulation tissue. These findings may support a prospective randomized study. A future study might also include measures of effects at the cellular level.

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**Author has no financial attachments to the Company